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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/935,011	08/21/2001	Michael Evan Webber	265/131	9087

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JONES, DAY, REAVIS & POGUE
555 WEST FIFTH STREET
SUITE 4600
LOS ANGELES, CA 90013-1025

EXAMINER

GAGLIARDI, ALBERT J

ART UNIT PAPER NUMBER

2878

DATE MAILED: 04/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/935,011	WEBBER, MICHAEL EVAN	
	Examiner	Art Unit	
	Albert J. Gagliardi	2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A (1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Claim Objections

2. Claims 8-15 and 29-35 are objected to because of the following informalities:

Claims 8 and 29 include the term "multiplexor". The preferred term is multiplexer. The remaining claims are objected on the basis of their dependency.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 and 8 recite the limitation "the fiber amplifier". There is insufficient antecedent basis for this limitation in the claim. The examiner notes that there is no necessary requirement that the amplifier is a "fiber" amplifier. The examiner also notes that claims 5-6 and 13-14 are redundant and/or contradictory considering the "fiber amplifier".

The remaining claims are rejected on the basis of their dependency.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-7, 16-18, 22-28 and 36-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chou (US 6,148,658) in view of Fujita *et al.* (US 6,043,504).

Regarding claim 1, *Chou* discloses an optical analysis system for analyzing a molecular component comprising: a laser (12) emitting light in the near infrared spectrum and an optical analysis means (14) optically coupled to the light source.

Chou does not specifically disclose the use of a light amplifier.

Regarding the use of a light amplifier, it is noted while *Chou* does not disclose the use of a light amplifier, it is well known in the art to utilize light amplifiers to increase the optical output of lasers and other sources. *Fujita*, for example, teaches that optical fiber amplifiers can increase the light output of near infrared lasers as much as 30 dB (col. 6, lines 57-63). Those skilled in the art appreciate that use of a light amplifier allows for the use of a lower power laser which are often more readily available. Therefore, absent some degree of criticality, it would have been a matter of routine design choice within the skill of a person of ordinary skill in the art to modify the system disclosed by *Chou* to further include an optical fiber amplifier optically coupled to the light source and the optical analysis means so as to allow for increased light output with a lower power laser.

Regarding claim 2, *Chou* discloses light having wavelengths between 700 nm and 3000 nm (abstract).

Regarding claims 3-4, in the apparatus suggested by *Chou* in view *Fujita* as applied above, *Chou* suggests that the optical coupling is done by optical fibers (16).

Regarding claims 5-6, in the apparatus suggested by *Chou* in view *Fujita* as applied above, *Fujita* suggests that the light amplifier is a fiber amplifier. Absent some degree of criticality, the use of a semiconductor optical amplifier would have been a functionally equivalent alternative design choice depending on the needs of the particular application.

Regarding claim 7, although *Chou* does not specifically describe the analysis means as a photoacoustic spectrometer, *Chou* does disclose that the analysis means includes at least a photoacoustic cell (14). Such cells are well known as being compatible with photoacoustic spectrometer systems. As such, one skilled in the art would have considered the use of an analysis means as comprising a photoacoustic spectrometer as being an obvious, if not inherent aspect of the system.

Regarding claims 16-18, the apparatus as claimed according to claims 16-18 is suggested by the apparatus suggested by *Chou* and *Fujita* as applied to claims 1-2, 5 and 7 above, and is rejected accordingly.

Regarding claims 22-28, the method as claimed according to claims 22-28 is suggested by the apparatus suggested by *Chou* and *Fujita* as applied to claims 1-7 above, and is rejected accordingly.

Regarding claims 36-38, the method as claimed according to claims 36-38 is suggested by the apparatus suggested by *Chou* and *Fujita* as applied to claims 16-18 above and is rejected accordingly.

7. Claims 8-15 and 29-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Chou* and *Fujita* as applied above, and further in view of *Mackenzie et al.* (US 6,403,944 B1).

Regarding claims 8-15, the apparatus suggested by *Chou* and *Fujita* as applied to claims 1-7 above suggests the apparatus as claimed except that *Chou* and *Fujita* do not suggest the use of a plurality of lasers and a multiplexer.

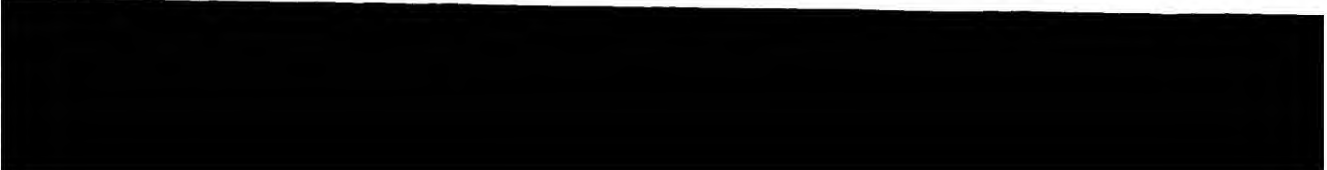
Regarding the plurality of lasers and the multiplexer, *Mackenzie* discloses that it is well known and considered a functionally equivalent alternative design choice to substitute a plurality of lasers and a multiplexer for a tunable laser (col. 4, lines 33-40; col. 9, lines 10-35). Therefore, absent some degree of criticality, the substitution of a plurality of lasers and a multiplexer for the tunable laser suggested by *Chou* and *Fujita* would have been an obvious design choice within the skill of a person of ordinary skill in the art depending on the needs of the particular application.

Regarding claims 29-35, the method as claimed according to claims 29-35 is suggested by the apparatus suggested by *Chou*, *Fujita* and *Mackenzie* as applied to claims 8-15 above and is rejected accordingly.

8. Claims 19-21 and 39-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Chou* and *Fujita* as applied above, and further in view of *Nathel et al.* (US 6,015,969).

Regarding claims 19-21, the apparatus suggested by *Chou* and *Fujita* as applied to claims 1-2 and 7 above suggests the apparatus as claimed except that *Chou* and *Fujita* do not suggest the laser is a fiber laser.

Regarding the fiber laser *Nathel* discloses a variety of well-known and functionally equivalent lasers including fibers lasers (col. 5, lines 57-63; col. 6, lines 37-41). Therefore, absent some degree of criticality, the substitution of a fiber laser for the laser suggested by *Chou*



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and *Fujita* would have been an obvious design choice within the skill of a person of ordinary skill in the art depending on the needs of the particular application.

Regarding claims 39-41, the method as claimed according to claims 39-41 is suggested by the apparatus suggested by *Chou*, *Fujita* and *Nathel* as applied to claims 19-21 above and is rejected accordingly.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Albert J. Gagliardi whose telephone number is (703) 305-0417. The examiner can normally be reached on Monday thru Friday from 9 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David P. Porta can be reached on (703) 308-4852. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Albert J. Gagliardi
Patent Examiner
Art Unit 2878

AJG
April 2, 2003